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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of	)	
	)	
Amendment of Section 73.606(b)	)	MM Docket No. 01-323
Table of Allotments	)	RM - 10337
Television Broadcast Stations	)	
(Vernal and Santaquin, Utah,	)	
Ely and Caliente, Nevada)	)	

To: Chief, Allocations Branch
Policy & Rules Division
Mass Media Bureau

REPLY COMMENTS

TV 6, L.L.C., permittee of VHF TV Station KBCJ, Channel 6, Vernal, Utah and Kaleidoscope Foundation, Inc., permittee of VHF TV Station KBNY, Channel 6, Ely, Nevada (collectively, the "Petitioners"), by their counsel, submit their reply comments in the above-captioned proceeding. Three parties – Ronald Ulloa ("Ulloa"), KM Communications, Inc. ("KM Communications"), and a group of Utah broadcasters (the "Joint Commenters") – filed comments opposing one or both of the allotments proposed in the *Notice of Proposed Rule Making*, DA 01-2736 (rel. Nov. 23, 2001) ("*NPRM*"). Each of the points raised in the comments is addressed below.

I. The Santaquin Reallotment Satisfies the Requirements for a Change of Community of License.

1. Ulloa and the Joint Commenters object to the Santaquin reallotment on the ground that it involves a relatively large relocation of the station's transmitter site.[1] Indeed, the Joint Commenters argue that a relocation of this magnitude is "tantamount to a new channel allotment"

[1] *See* Comments of Ulloa at 2-3 ("No previous television reallotment case . . . has involved such a long-distance geographic shift in an allotment . . ."); comments of Joint Commenters at 11 (neither the Notice nor the petitioners cite precedent for a geographic shift of such magnitude . . .).

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and should not have been accepted by the Commission.[2] However, the Commission clearly anticipated relocations of this magnitude. Section 1.420(i) of the Rules permits the Commission to modify a license or permit to specify a new community of license "where the amended allotment would be mutually exclusive with the licensee's or permittee's present assignment."[3] The requirement of mutual exclusivity limits the distance that a transmitter site can be relocated, because mutual exclusivity is determined with reference to the spacing tables. Under those tables, Channel 6 could have relocated as far as 305 kilometers, well beyond the actual distance of 249 kilometers.[4] Neither party alleges that the requirement of mutual exclusivity is not met in this case, and both must therefore concede that the Santaquin reallotment falls within the distance permitted under the Commission's Rules.[5]

II. The Santaquin Reallotment Furthers the Commission's Television Allotment Priorities.

2. Although the Santaquin reallotment would provide a first television reception service to a large number of people in the Santaquin area, the Joint Commenters nevertheless assert that the Santaquin reallotment would not further the Commission's first allotment priority because it would "remov[e] the only local television reception service to almost twice as many people" in the Vernal

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2 Comments of Joint Commenters at 6-7. The Joint Commenters also allege that factual errors in the NPRM render it defective. Comments of Joint Commenters at 5-6. However, these errors did not diminish the notice to the public, and to the extent they affect the analysis they are discussed in the Petitioners' comments.

3 47 C.F.R. § 1.420(i).

4 *See* 47 C.F.R. § 73.610(b)(1).

5 The Joint Commenters also state, erroneously, that "the Commission should not have proposed modifying the construction permit, as the facilities authorized in the permit cannot serve any part of Santaquin." Comments of Joint Commenters at 7 n.3. There is no requirement that a station serve a community *before* being relocated to serve that community, and such a concept would be absurd. *After* being relocated, of course, the station will place a city grade contour over all of Santaquin.

area.[6] This assertion is wrong for two reasons. First, as set forth in the petition and the Petitioners' comments, there is no current reception service provided in the Vernal area by the station, since it has never been placed on the air. Thus, its removal from Vernal cannot deprive anyone of a reception service. Consistent with this, the Commission does not consider the removal of a potential service to be a white area loss.[7] Second, even if the white area loss is considered, the Santaquin reallotment will result in a substantial *gain* in white area population, not a loss as the Joint Commenters assert. The Joint Commenters relied on the results of the staff's engineering study as reported in the Notice, and did not conduct their own engineering study to compute the populations of any white area. According to the Petitioners' study, whose underlying methodology and assumptions are clearly set forth in the comments, there is a "gain" of 13,440 persons able to receive a first service as a result of the Santaquin reallotment, even when the theoretical white area "loss" at Vernal is taken into account.[8] It should be noted that the study conducted by KM Communications essentially confirms the Petitioners' results. *See* Technical Narrative at 8-9.

3. The Joint Commenters also assert, erroneously, that the Santaquin reallotment would not further priority 2 (provision of a first local service to all communities in the country). The Joint Commenters compared the populations of Vernal and Santaquin to arrive at this conclusion, but this

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6 Comments of Joint Commenters at 8. In a similar vein, KM Communications asserts that the Commission should consider the loss of service to Vernal. As discussed herein, that is incorrect, but even if potential service losses at Vernal are considered, the Santaquin reallotment is preferable.

7 *Farmington and Gallup, New Mexico*, 11 FCC Rcd 2357, 2360 (1996). *See also Nogales, Vail, and Patagonia, Arizona*, DA 01-2735 (rel. Nov. 23, 2001) at ¶ 3 (Commission considers only loss of actual service, not potential service).

8 Comments of Petitioners at 5. KM Communications states that the Petitioners overstated the white and gray area gains by failing to consider the contours of Channel 32, Provo, Utah and Channel 3, Price, Utah. However, these contours *were* considered in the engineering study attached to the Comments of Petitioners. They were correctly omitted from the engineering study accompanying the Petition, because construction permits for these stations were not granted in time for their inclusion. *See* Technical Narrative at 8.

comparison is improper since Santaquin currently has no television allotment whereas Vernal has two. Therefore, irrespective of population, one allotment at Santaquin and one at Vernal is a preferential arrangement over the status quo under priority 2.

4. Finally, the Joint Commenters assert that the Santaquin reallotment would not further priority 5. Priority 5 requires the Commission to "assign any remaining channels to communities based on population, geographic location, and the number of television services available to the community from stations located in other communities."[9] This assertion is also incorrect. The city of Santaquin, with a 2000 population of 4,834 persons, has *no* city-grade television reception service, when terrain effects are taken into account. *See* Technical Narrative at 5.[10] Moreover, the station would provide a first, second, third, and fourth service to areas relatively underserved by other television signals.[11] These are the factors considered under Priority 5, and they favor the Santaquin reallotment. In any event, priority 5 is a catch-all priority, which is only invoked if no other priority is determinative. Since, as amply demonstrated in the Petition and the Petitioners' comments, the Santaquin reallotment furthers priorities 1, 2, and 3, there is no basis to decide this case on a priority 5 analysis.

III. The Santaquin Reallotment Meets All Technical Requirements With Respect to KSL-TV and NCE FM Stations in the Salt Lake City/Provo Area.

5. The Joint Commenters allege a number of harms to KSL-TV and various Noncommercial Educational (NCE) FM stations in the Salt Lake City/Provo Utah area as a result

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9 *Sixth Report and Order on Television Allocations,* 41 FCC 148, 167 (1952).

10 In this mountainous area, the results of the terrain-sensitive model are more likely to accord with real-world experience. However, even using the Commission's standard prediction model, only two television stations are predicted to provide city-grade service to Santaquin. *See* Technical Narrative at 4.

11 *See* Comments of Petitioners.

of the Santaquin reallotment. However, as described below, the Santaquin reallotment meets all of the Commission's technical requirements, which are designed to ensure that no interference will be caused. That is all that is required.

6. With respect to KSL-TV (Channel 5), the Santaquin reallotment meets the applicable spacing rules. *See* Technical Narrative at 1-2. The Commission's Rules clearly state that "[t]he nature and extent of the protection from interference accorded to TV broadcast stations is limited solely to the protection which results from the minimum allotment and station separation requirements. . ."[12] Thus, any claim that Channel 5 will receive interference is barred as long as the spacing rules are met. Since they are met in this case, the inquiry is ended.

7. With respect to interference to NCE-FM stations from Channel 6 at Santaquin, there are no spacing requirements whatsoever, since there is sufficient spectral separation to prevent interference from a TV station to an FM signal. *See* Technical Narrative at 5-6. Twenty years ago the Commission found that "[t]he comparatively narrow bandwidth (.2 MHz) used in FM broadcasting, and the high selectivity of FM receivers prevents TV-to-FM interference."[13] Today's FM receivers are even more selective than those of 20 years ago. Accordingly, no spacing studies between Channel 6 and NCE FM stations are required, and no interference will be caused, even in a digital environment.[14]

8. The Joint Commenters also allege that the proposed Santaquin allotment will *receive*

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12 47 C.F.R. § 73.612(a).

13 FCC News Release, Report No. 16992 (May 14, 1982), attached hereto as Figure 14.

14 *See Sixth DTV Report and Order*, 12 FCC Rcd 14588, 14657 n.271 [¶ 148] ("There are no restrictions on new TV channel 6 stations or changes with respect to FM channels 201-220.").

interference from NCE FM stations.[15] There is no technical showing required under the rules, and no prohibition on received interference. Thus, Channel 6 at Santaquin will have to accept any interference caused by NCE FM stations. However, the interference should not be as great as the Joint Commenters predict. *See* Technical Narrative at 2-3. High mountains between the FM service areas and the Santaquin TV service area limit any actual interference. No interference is predicted within the Santaquin community boundaries, and any actual interference elsewhere is likely to be cured through the use of FM traps and filters. *See* Technical Narrative at 3 and Exhibits 1-10.

9. Similarly, the Joint Commenters state that NCE FM stations will be "boxed in" by a new Channel 6 allotment at Santaquin.[16] This problem is said to arise because NCE FM stations will be required to demonstrate protection to the Channel 6 facilities if they wish to make any technical modifications to their facilities. As an initial matter, any resulting harm is purely speculative. The NCE FM stations in the Santaquin area have had many years in which to maximize their facilities. Any station that has not done so by now is likely precluded from doing so by other concerns, such as spacing to co- and adjacent-channel FM stations, and not by Channel 6 at Santaquin. Second, the Commission no longer takes into account the preclusive effect of a new or modified allotment on existing FM facilities. *See Revision of FM Assignment Policies and Procedures*, 90 F.C.C. 2d 88, 95 (1982) ("Based on the maturation of the FM medium we have decided to end our preclusion policy"). Therefore, even to the extent the harm is more than speculative, the argument must fall on deaf ears. However, the Joint Commenters are not without recourse. The Commission's Rules grant flexibility in a number of ways to NCE FM stations in

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15 *See* Comments of Joint Commenters at 12.

16 *See* Comments of Joint Commenters at 12-13.

situations like this. NCE-FM stations facing the loss of a transmitter site, for example, are considered on a case-by-case basis.[17] NCE FM stations may use polarization, filters, and similar technical solutions as well as interference agreements for situations in which modifications would otherwise be prohibited.[18] Moreover, where extreme terrain conditions exist, such as in the Santaquin area, additional exceptions may be made.[19]

IV. The Santaquin Reallotment has no Effect on DTV Allotments and Any DTV Considerations are Premature.

10. The Joint Commenters fault the Petitioners for failing to include studies analyzing the impact of digital operation on Channel 6 at Santaquin.[20] However, these concerns are misplaced. The Petition requested, and the *NPRM* proposed, relocating NTSC Channel 6 from Vernal to Santaquin. No digital operation on Channel 6 has been requested or proposed at this time. Thus, the issues before the Commission are limited to those related to analog television. In the future, when a specific proposal to broadcast digitally at Santaquin is made, the required showings will be submitted for evaluation. However, it is premature to consider such a proposal at this time, when the parameters of digital operation are as yet unknown. It is not even clear, as the Joint Commenters appear to assume, that DTV operation at Santaquin must be on Channel 6. Another channel may well become available as other stations turn in one of their paired "core band" channels.[21]

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17 47 C.F.R. § 73.525(b)(5).

18 47 C.F.R. § 73.525.

19 47 C.F.R. § 73.525(e)(1)(vi).

20 *See* Comments of Joint Commenters at 13-14.

21 For example, KSL-TV has NTSC Channel 5 and DTV Channel 38, either of which may become available for a future DTV allotment.

11. Nevertheless, although unnecessary at this time, the Petitioners have conducted a study of the impact of DTV operation on Channel 6 at Santaquin. *See* Technical Narrative at 6-7. Under worst-case assumptions, the presumed Channel 6 DTV operation is predicted to cause interference to an FM signal on Channel 201 in an area containing one person. The proposed Channel 6 site is located well outside the 60 dBu contour of every NCE FM station within 100 kilometers.

12. Ulloa is concerned that as a result of the Santaquin reallotment, the Vernal area may be forever deprived of a DTV allotment.[22] This concern is unfounded. The Petition noted that several channels were available for allotment to Vernal as either NTSC or DTV (*e.g.*, Channels 25, 33, 41, 45, 47, 50, and 51).[23] The FCC has indicated that it will permit the allotment of new DTV channels at some point in the future.[24]

V. Conclusion

The commenters have failed to raise any issue that detracts from the proposals set forth in the *NPRM*. The Santaquin and Calente reallotments will combine to produce a substantial public

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22 *See* Comments of Ulloa at 4 ("there is little likelihood that Vernal will be allotted another digital channel").

23 *See* Petition, Technical Narrative, at 2.

24 *See Sixth DTV Report and Order*, 12 FCC Rcd at 14685-88 [¶¶ 214-222].

interest benefit as gauged by the Commission's television allotment priorities. The Commission should grant the proposals.

Respectfully submitted,

TV 6 L.L.C. and
KALEIDOSCOPE FOUNDATION, INC.

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January 29, 2002

TECHNICAL EXHIBIT
IN SUPPORT OF REPLY COMMENTS
IN THE NOTICE OF PROPOSED RULE MAKING
TO AMEND THE NTSC TV TABLE OF ALLOTMENTS
VERNAL AND SANTAQUIN, UTAH,
ELY, NEVADA AND CALIENTE, NEVADA

Technical Narrative

This technical narrative and associated exhibits have been prepared on behalf of NTSC TV stations KBNY, channel 6, Ely, NV and KBCJ, channel 6, Vernal, UT ("Petitioners") in support of reply comments in the Notice of Proposed Rule Making in MM Docket No. 01-323 ("NPRM"). The NPRM proposes the reallotment of NTSC channel 6 from Ely to Caliente, NV and the reallotment of channel 6 from Vernal to Santaquin, UT and modification of the construction permits at Ely (BPET-970331LN) and at Vernal (BPCT-19960919KG). Comments in opposition to the NPRM were filed by The Joint Commenters[1], Ronald Ulloa and KM Communications, Inc. The purpose of these reply comments is to address technical issues raised in the opposing comments.

The Joint Commenters

1. Interference to KSL, Ch. 5, Salt Lake City, NV

The Joint Commenters allege that the proposed operation will adversely impact the operation of KSL on NTSC channel 5 at Salt Lake City, Nevada, notwithstanding the fact that the proposed operation is fully-spaced to KSL pursuant to the provisions of Section 73.610.[2] Furthermore, The Joint Commenters also note that "the proposed Santaquin location meets the spacing requirements to the adjacent channel 5 in Salt Lake City".[3]

The Joint Commenters interference allegation is based on calculations using OET Bulletin No. 69. However, as noted in Section 73.612(a),

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[1] The Joint Commenters comprise Utah TV stations KSL-TV, KUED and KULC, and FM stations KBYU-FM, KCPW, KPCW, KOHS, KPGR, KRCL KUER-FM, KUSU-FM and KWCR-FM.
[2] See page 1 of Libin report.
[3] See page 1 of Libin report.

> "Permittees and licensees of TV broadcast stations are not protected from any interference which may be caused by the grant of a new station or of authority to modify the facilities of an existing station in accordance with the provisions of this subpart. The nature and extent of the protection from interference accorded to TV broadcast stations is limited solely to the protection which results from the minimum allotment and station separation requirements and the rules and regulations with respect to maximum powers and antenna heights set forth in this subpart."

Furthermore, the FCC's rules limit use of OET Bulletin No. 69 to evaluation of mutual interference between NTSC and DTV facilities.[4] Therefore, use of OET Bulletin No. 69 is considered inappropriate in this instance. Finally, the Petitioners are unaware of OET Bulletin No. 69 being used by the FCC in any instance involving fully-spaced NTSC facilities.

2. Interference to Proposed Channel 6 from NCE-FM

The Joint Commenters allege that predicted interference will be caused to the proposed NTSC channel 6 operation at Santaquin from the following noncommercial educational FM (NCE-FM) stations located within the distances specified in Section 73.525(a) from the proposed Santaquin channel 6 transmitter site.[5]

Call	Location	Channel
KPGR	Pleasant Grove, UT	Ch. 201A
KWCR	Ogden, UT	Ch. 201A
KCPW	Salt Lake City, UT	Ch. 202A
KBYU	Provo, UT	Ch. 206C
KAGJ	Ephraim, UT	Ch. 208A
KUER	Salt Lake City, UT	Ch. 211C
KRCL	Salt Lake City, UT	Ch. 215C
KOHS	Orem, UT	Ch. 219A
KUFR	Salt Lake City, UT	Ch. 219A
KPCW	Park City, UT	Ch. 220A

[4] The FCC's rules also permit use of OET Bulletin No. 69 by LPTV/Class A stations seeking waivers of the normal allocation criteria.

[5] See page 2 of Libin report. The Joint Commenters also note that there are 31 NCE-FM translators that could potentially have an effect of the proposed channel 6 operation. First of all, due to the low ERP levels of FM translators, actual interference is not expected to occur. Furthermore, FM translators are secondary operations which must alleviate instances of actual interference.

The Petitioners acknowledge that they will have to accept any interference caused by NCE-FM stations. However, due to the significant intervening terrain features in the Santaquin area, actual interference is expected to be limited. To illustrate, terrain profiles have been prepared from the proposed Santaquin channel 6 transmitter site to the transmitter sites of each of the aforementioned NCE-FM stations. The terrain profiles are attached as Figures 1 through 10. The terrain has been derived from a 3-second terrain database. The direct "line-of-sight" (LOS) path from the Santaquin transmitter site to the transmitter site of the NCE-FM station has been shown on each terrain profile along with the 0.6 first fresnel zone. As indicated, there are significant terrain features (The Wasatch and Uintah Ranges of the Rocky Mountains) which will limit, or prevent, the occurrence of actual interference. In addition, it is expected that use of FM traps and filters would eliminate actual instances of interference. Finally, it is noted that in the 6th Report and Order in MM Docket 87-268 (DTV Docket) at paragraph 271, the FCC noted that "There are no restrictions (emphasis added) on new TV channel 6 stations or changes with respect to FM channels 201-220." Finally, there would be no predicted interference caused within the Santaquin city limits.

3. Potential Impact on Future NCE-FM Facility Modifications

The Joint Commenters allege that those NCE-FM stations with overlapping interference contours will be precluded by the proposal due to the interference requirements of Section 73.525 of NCE-FM rules related to TV channel 6 interference.[6] First of all, NCE-FM is a mature service and the potentially affected stations have had many years to maximize facilities. Furthermore, with respect to stations that may have to change site, there may be other allotment issues that are more preclusive than the channel 6 allotment criteria. In addition, Section 73.525(b)(5) provides for consideration on a "case-by-case" basis for an NCE-FM station which must make an involuntary facility modification, such as loss of transmitter site. Furthermore, Section 73.525 provides additional flexibility to permit an NCE-FM station to comply

with the interference criteria, including (1) use of vertical polarization only or increasing the ratio of the vertical to horizontal polarization, (2) installation of filters, (3) adjustments for television receive antenna directivity, (4) consideration of alternate programming from TV translators, satellite stations or duplicate network sources, and (5) interference agreements between the NCE-FM station and the channel 6 station. Finally, exceptions may be made for extreme terrain conditions [Section 73.525(e)(1)(vi)] which is applicable in this instance as the Santaquin area is located within the Wasatch and Uintah Ranges of the Rocky Mountains.

4. Existing Santaquin Area TV Service

The Joint Commenters allege that since 13 TV stations in the Salt Lake City/Provo area provide Grade B service to Santaquin, the area is "well served".[7] Specifically, the Joint Commenters state that the following TV stations provide Grade B service to Santaquin.

Call	Location	Channel
KUTV	Salt Lake City, UT	2
KTVX	Salt Lake City, UT	4
KSL	Salt Lake City, UT	5
KUED	Salt Lake City, UT	7
KULC	Ogden, UT	9
KBYU	Provo, UT	11
KSTU	Salt Lake City, UT	13
KJZZ	Salt Lake City, UT	14
KUPX	Provo, UT	16
KTMW	Salt Lake City, UT	20
KAZG	Ogden, UT	24
KUWB	Ogden, UT	30
CP	Provo, UT	32

However, it has been determined that only 2 of these stations provide a predicted City Grade signal to Santaquin, namely, KUPX and the construction permit (CP) for channel 32 at Provo. Furthermore, significant intervening terrain features are expected to limit the availability of actual TV service to the Santaquin area. To illustrate, terrain profiles have been prepared from the transmitters sites of each of the

[6] See page 2 of Libin report.
[7] See page 3 of The Joint Comments and page 3 of the Libin report.

aforementioned stations to the Santaquin reference point. It is noted that KUTV, KBYU, KUED, KTVX, KJZZ, KTMW, KUWB, KPNZ, KSTU and KSL are all located on Farnsworth Peak (the Salt Lake City antenna farm) and, therefore, one profile was prepared for all these stations. The terrain profiles for KUPX, the channel 32 CP at Provo and Farnsworth Peak (Salt Lake City station transmitter site) are attached as Figures 11 through 13, respectively. The terrain has been derived from a 3-second terrain database. The direct "line-of-sight" (LOS) path from each station's transmitter site to the Santaquin reference point has been shown on each terrain profile along with the 0.6 first fresnel zone. As indicated, there are significant terrain features (The Wasatch and Uintah Ranges of the Rocky Mountains) which will diminish the availability of TV service to Santaquin.

Therefore, calculations using the Longley-Rice prediction method, otherwise known as Tech Note 101, were applied in this case as a more precise (real world) alternative to the Commission's standard method.[8] The results of the Longley-Rice calculations indicate that only 3 of the aforementioned stations will provide a Grade B signal to Santaquin, namely, KUTV, KTVX and KSL. Furthermore, based on the Longley-Rice model none of the aforementioned stations will provide City Grade service to Santaquin.

5. Interference to NCE-FM Stations from Proposal

The Joint Commenters allege that the proposed operation will cause interference to NCE-FM stations.[9] The Joint Commenters use the same criteria for predicting interference "to" the proposed channel 6 facility as is to be

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[8]Rice, P. L., A. G. Longley, K. A. Norton, and A. P. Barsis, "Transmission Loss Predictions for Tropospheric Communication Circuits," Technical Note 101 (Issued May 7, 1965, Revised January 1, 1967) National Bureau of Standards, Boulder, Colorado. The propagation analysis over irregular terrain described in the above document has been developed into a computer model. The model analyzes the terrain along the entire path under study, not just from 3.2 to 16.1 kilometers as in the Commission's standard prediction method, and determines if an obstruction should be considered a "knife edge" or a "rounded obstacle". A 3-second digitized terrain database is employed in the calculations. The program also determines whether "smooth earth" or "free space" calculations are appropriate for unobstructed paths. The results are objective, quantifiable and repeatable with user input basic parameters (coordinates, frequency, ERP and transmit and receive antenna height).

[9] See pages 2 and 3 of the Libin report.

used for the analysis of interference "from" an NCE-FM station to a channel 6 facility. However, due to the differences in receiver characteristics between FM and TV this is considered to be inappropriate. Furthermore, the FCC indicated in an FCC News Release dated May 14, 1982 that "The comparatively narrow bandwidth (0.2 MHz) used in FM broadcasting, and the high selectivity of FM receivers prevents TV-to-FM interference (emphasis added)". A copy of the FCC News Release is attached as Figure 14. Also, as previously noted, in the 6th Report and Order in MM Docket 87-268 (DTV Docket) at paragraph 271, the FCC stated that "There are no restrictions on new TV channel 6 stations or changes with respect to FM channels 201-220."

6. Interference to NCE-FM Stations from DTV Channel 6 Operation

The Joint Petitioners allege that a showing regarding the interference from a DTV operation on channel 6 to NCE-FM stations in the area should have been made pursuant to Section 73.623(f).[10] However, that Section requires an interference study with respect to NCE-FM stations for DTV channel 6 proponents, not analog (NTSC) channel 6 proponents as is the case herein. Furthermore, the Petitioners may choose to move to another channel that becomes available as other stations turn in one of their paired "core band" channels. For instance, KSL has NTSC 5 and DTV 38. Thus, the possibility exists that the Petitioners could propose to use either of these channels in lieu of channel 6 for its DTV operation.

However, in an abundance of caution an analysis of the potential for interference to NCE-FM operations has been undertaken presuming DTV operation on channel 6 at Santaquin. The following tabulation provides a list of the authorized full service NCE-FM stations located within 100 km (62 miles) of the proposed site.

NCE-FM Station	Channel/Frequency	Bearing	Separation
KPGR, Pleasant Grove, UT	Ch. 201A, 88.1 MHz	15 deg.	72.4 km
KWCR, Ogden, UT	Ch. 201A, 88.1	0	161.6
KCPW, Salt Lake City, UT	Ch. 202A, 88.3	2	114.5
KBYU, Provo, UT	Ch. 206C, 89.1	349	98.9
KAGJ, Ephraim, UT	Ch. 208A, 89.5	143	51.7
KUER, Salt Lake City, UT	Ch. 211C, 90.1	349	99.0

[10] See page 14 of The Joint Comments.

Consideration was given to the potential for adverse impact within the 1 mV/m (60 dBu) contour of each of the above stations as this is the protected contour for NCE-FM stations pursuant to Section 73.509. It has been determined that the proposed channel 6 site is located well outside the 60 dBu contour of each of these NCE-FM stations. Furthermore, as indicated on the terrain profiles attached as Figures 1 through 6 towards KPGR, KWCR, KCPW, KBYU, KAGJ and KUER, respectively, there are significant intervening terrain features (The Wasatch and Uintah Ranges of the Rocky Mountains) which would be expected to prevent instances of actual interference.

Finally, a "worst-case" NCE-FM interference study was conducted based on a presumed DTV operation on channel 6 from the Petitioners proposed site (N39-43-58/W111-56-34) with a nondirectional maximum ERP of 7 kW and an HAAT of 305 meters. The presumed DTV facilities would permit replication of the proposed NTSC coverage (ERP 100 kW/HAAT 305 meters).[11] The study used the DTV emission mask to estimate the DTV power at channel 201 (88.1 MHz), the closest NCE-FM frequency to TV channel 6 (i.e. the frequency with the greatest potential for received interference). Based on the RF emission mask, the DTV ERP must be attenuated -47 dB from the maximum ERP. Also, an additional 14.8 dB was added to the RF mask value to account for FM bandwidth, for a total attenuation of 61.8 dB. Based on a maximum nondirectional ERP of 7 kW on DTV channel 6, the estimated ERP at 88.1 MHz is 0.005 Watt. Presuming that the NCE-FM field strength on channel 201 at the proposed channel 6 site is 60 dBu, and using the standard 20 dB desired-to-undesired (D/U) ratio for co-channel interference, the DTV interfering contour value would be the 40 dBu, F(50,10). Figure 15 depicts the predicted 40 dBu contour for the presumed channel 6 operation based on an ERP of 0.005 Watt. Also shown are the population centroids based on the 2000 Census. It has been determined that the 40 dBu contour encompasses 1 population centroid with an associated population of 1 person. Thus, on a "worst-case" basis the presumed channel 6 DTV operation is predicted to cause interference to 1 person.[12]

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[11] It has been determined that the presumed DTV facilities would comply with the FCC's DTV interference criteria contained in Section 73.623.

[12] A similar analysis was accepted by the FCC as part of the substitution of DTV channel 6 for DTV channel 58 at Weston, WV (see Report and Order in MM Docket No. 00-242, adopted March 5, 2001, released March 6, 2001).

Ronald Ulloa

Ronald Ulloa alleges that there is "little likelihood" that Vernal will be allotted another DTV channel due to compression of TV band into a core group.[13] However, in original Petition it was noted that several channels were available for allotment to Vernal as either NTSC or DTV (25, 33, 41, 45, 47, 50 and 51).[14] Furthermore, the FCC has indicated that at some point in the future the FCC will permit the allotment of new DTV channels.[15]

KM Communications, Inc.

KM Communications, Inc. alleges that the Petitioners' evaluation of the Grade B gain and loss areas did not include service from the authorized operations of channel 3 at Price, UT (BPCT-19961001LO, granted 3/10/00) and channel 32 at Provo, UT (BPCT-19960404KX, granted 10/25/00).[16] However, the Technical portion of the original Petition was completed and dated 3/10/00, the same day the channel 3 operation at Price was granted and over 7 months "before" the Provo channel 32 application was granted. Therefore, it would not have been possible for the Petitioners to have considered either authorization in its analysis of the Grade B gain and loss areas. In any event, both authorized operations were considered in comments filed by the Petitioners in this proceeding which updated the previous studies based on the current CDBS and 2000 Census. Finally, the following tabulates the white and gray area figures as set forth by KM Communications, Inc. and the Petitioners, as well as the differences.

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[13] See footnote 3 on page 4 of the Ronald Ulloa's comments.
[14] See footnote 2 on page 2 of the Technical portion of the Petition.
[15] See paragraphs 214 and 221 of the Sixth Report and Order in MM Docket No. 87-268.
[16] See page 3 of the KM Communications, Inc. comments and opposition.

	KM Communications, Inc.	Petitioners	Difference
White Area			
Population (2000)	14,178	14,515	337
Area (km^2)	5,230	5,277	47
Gray Area			
Population (2000)	43,058	43,048	-10
Area (km^2)	7,851	8,667	816

As shown, the differences are minor and the figures are essentially identical.

W. Jeffrey Reynolds

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Sarasota, Florida 34237-6019
(941)329-6000
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January 25, 2002

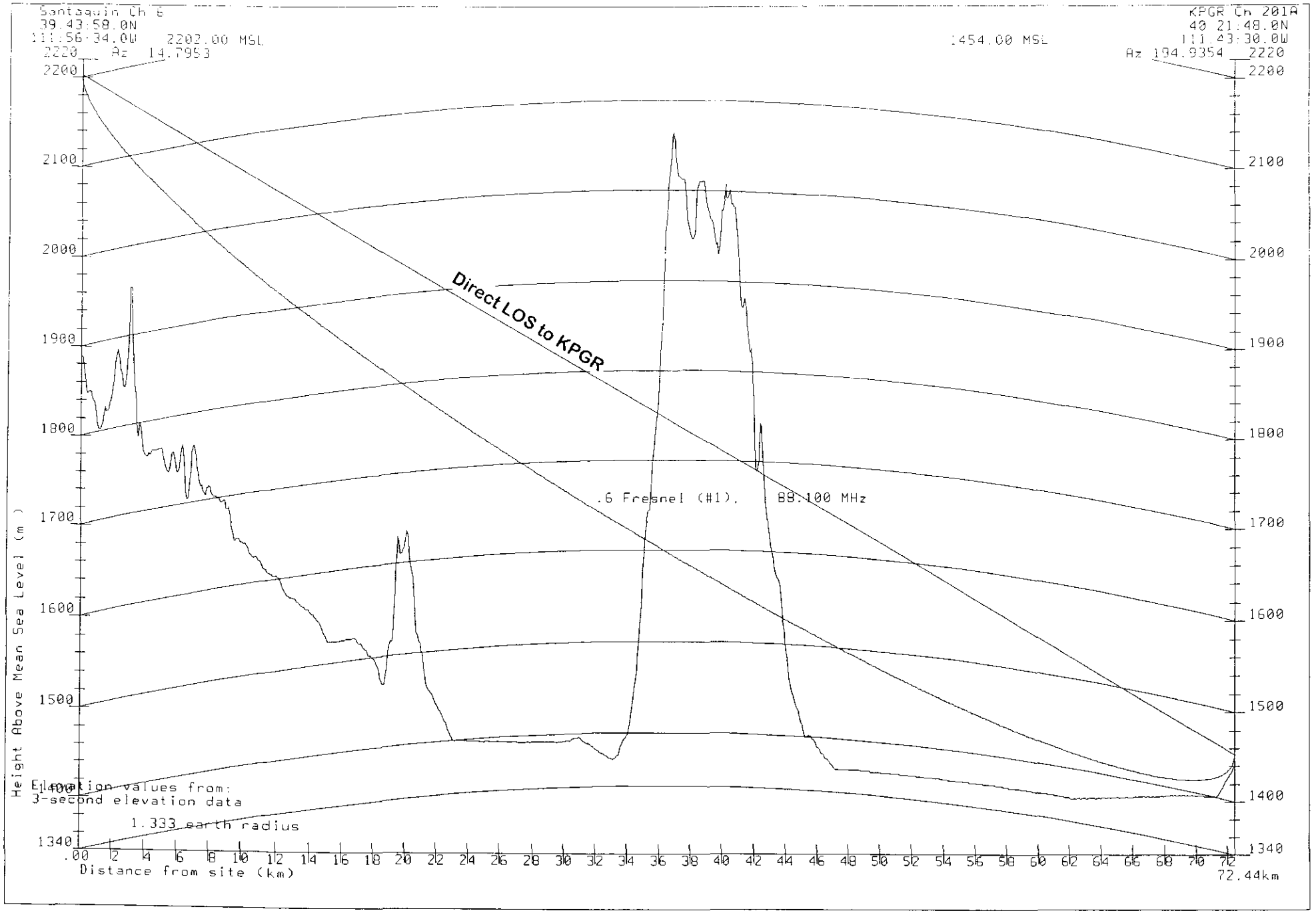

Santaquin Ch 6
39 43:58.0N
111:56:34.0W 2202.00 MSL
2220 Az 14.7953
KPGR Ch 201A
40 21:48.0N
111 43:30.0W
1454.00 MSL
Az 194.9354 2220
Direct LOS to KPGR
.6 Fresnel (#1), 88.100 MHz
Height Above Mean Sea Level (m)
Elevation values from:
3-second elevation data
1.333 earth radius
Distance from site (km)
72.44km

Figure 1

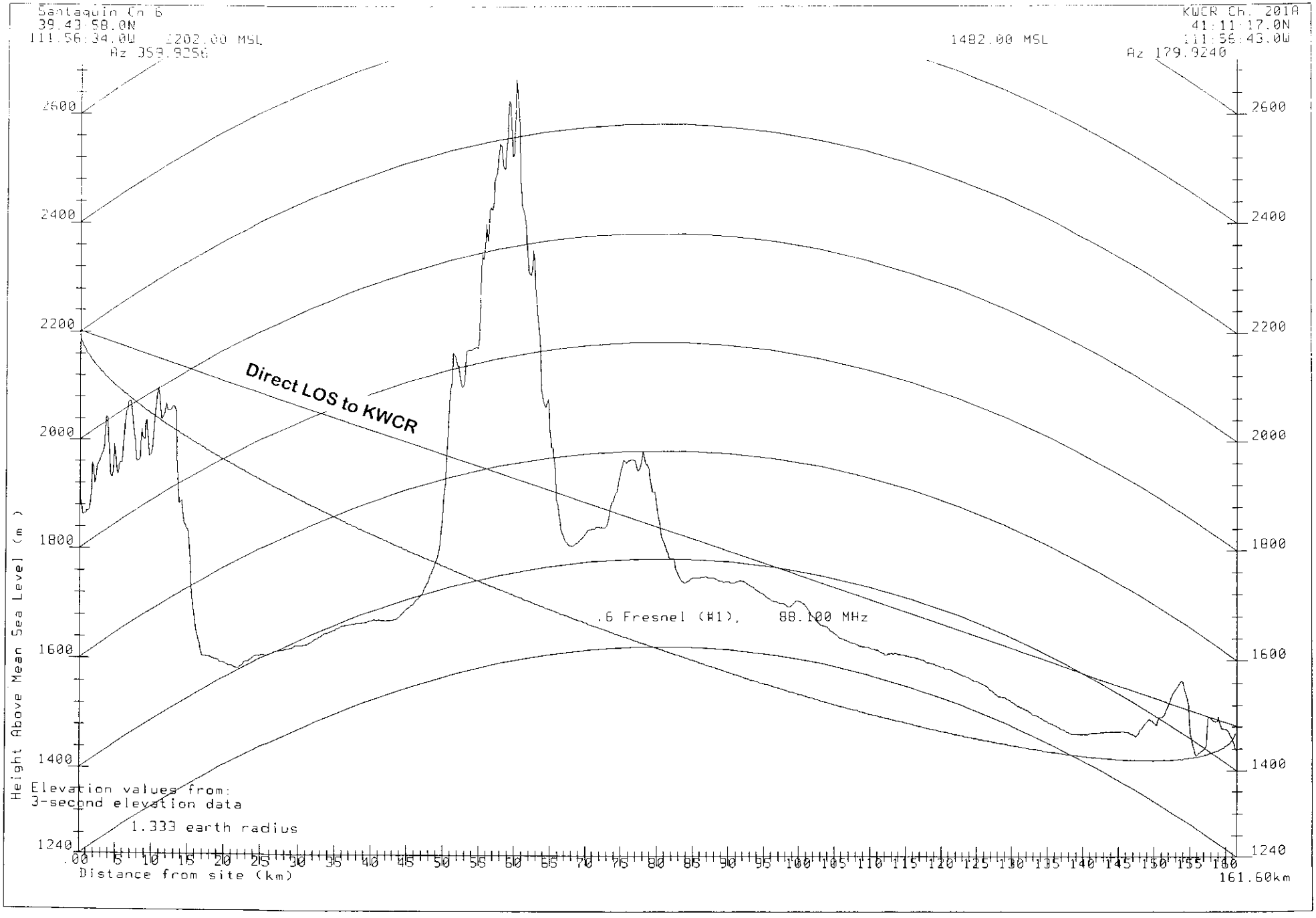

Santaquin Ch 6
39.43:58.0N
111:56:34.0W
1202.00 MSL
Az 359.9258
KWCR Ch. 201A
41:11:17.0N
111:56:43.0W
1482.00 MSL
Az 179.9240
Direct LOS to KWCR
.6 Fresnel (#1), 88.100 MHz
Height Above Mean Sea Level (m)
2600
2400
2200
2000
1800
1600
1400
1240
Elevation values from:
3-second elevation data
1.333 earth radius
.00 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160
Distance from site (km)
161.60km

Figure 2

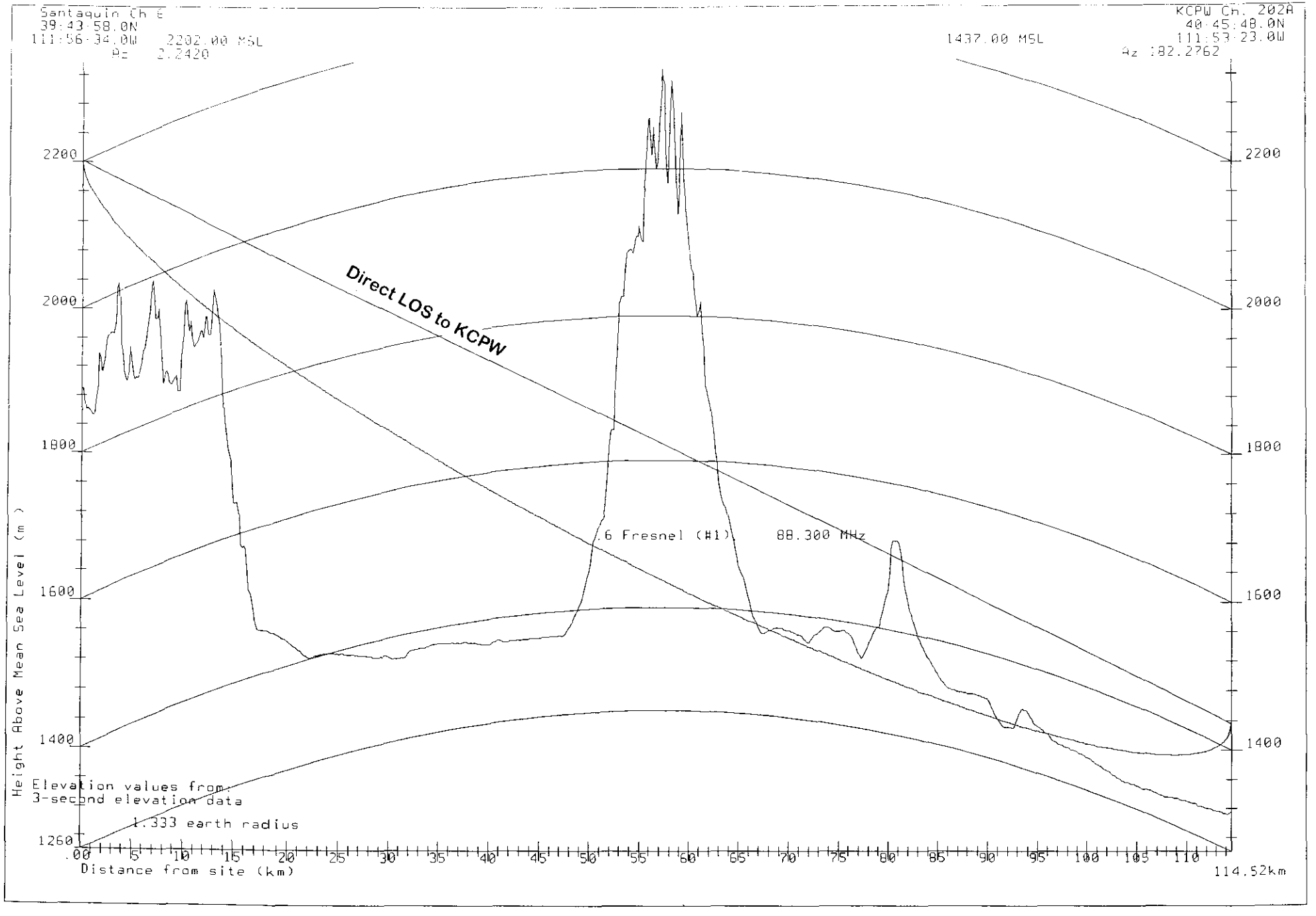

Santaquin Ch E
39:43:58.0N
111:56:34.0W 2202.00 MSL
Az 2.2420
KCPW Ch. 202A
40:45:48.0N
111:53:23.0W
1437.00 MSL
Az 182.2762
Direct LOS to KCPW
.6 Fresnel (#1) 88.300 MHz
Height Above Mean Sea Level (m)
2200
2000
1800
1600
1400
1260
Elevation values from:
3-second elevation data
1.333 earth radius
.00 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110
Distance from site (km)
114.52km

Figure 3

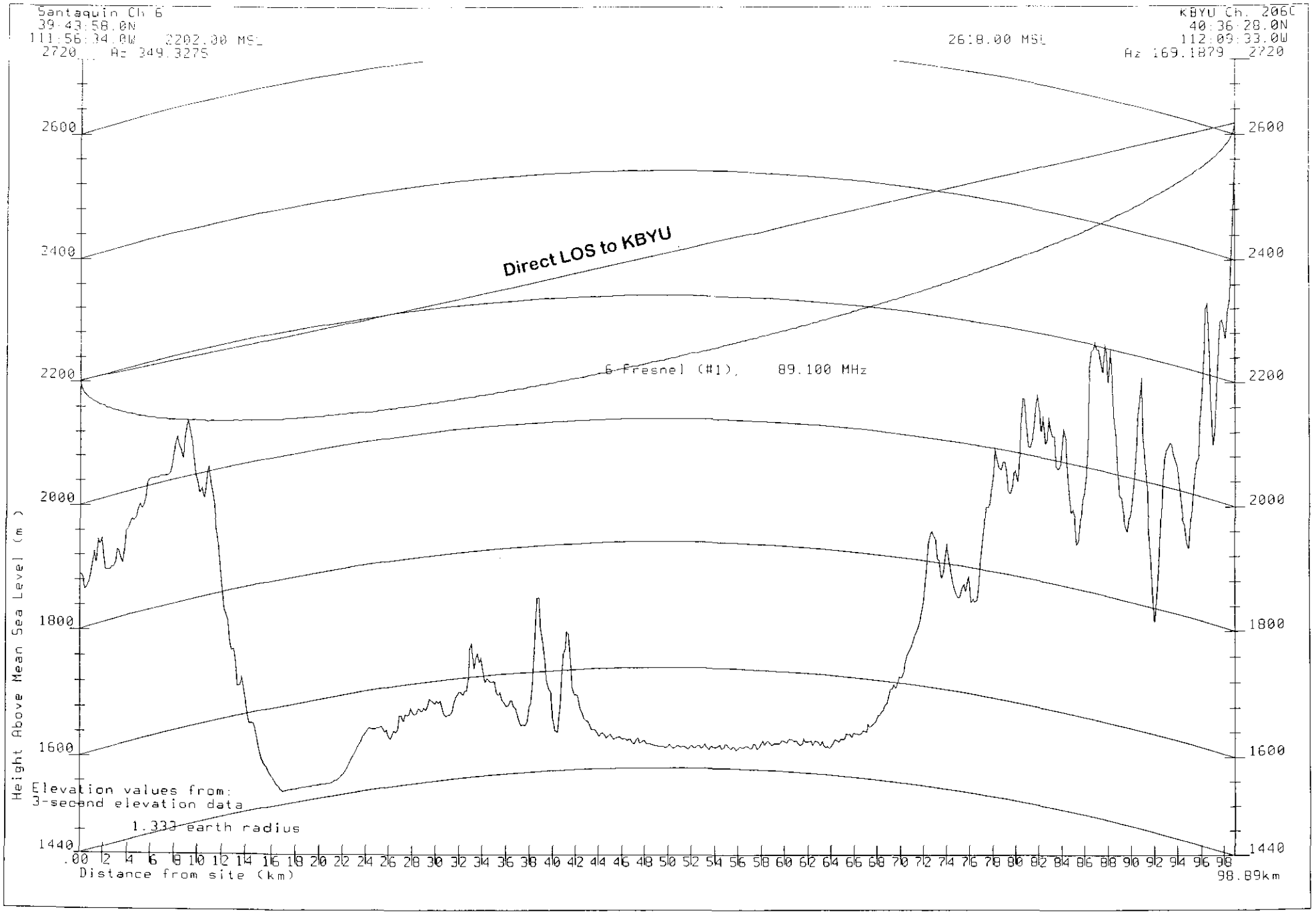

Santaquin Ch 6
39:43:58.0N
111:56:34.0W 2202.00 MSL
2720 Az 349.3275
KBYU Ch. 206C
40:36:28.0N
112:09:33.0W
2618.00 MSL
Az 169.1879 2720
Direct LOS to KBYU
6 Fresnel (#1), 89.100 MHz
Height Above Mean Sea Level (m)
2600
2400
2200
2000
1800
1600
1440
Elevation values from:
3-second elevation data
1.333 earth radius
.00 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98
Distance from site (km)
98.89km

Figure 4

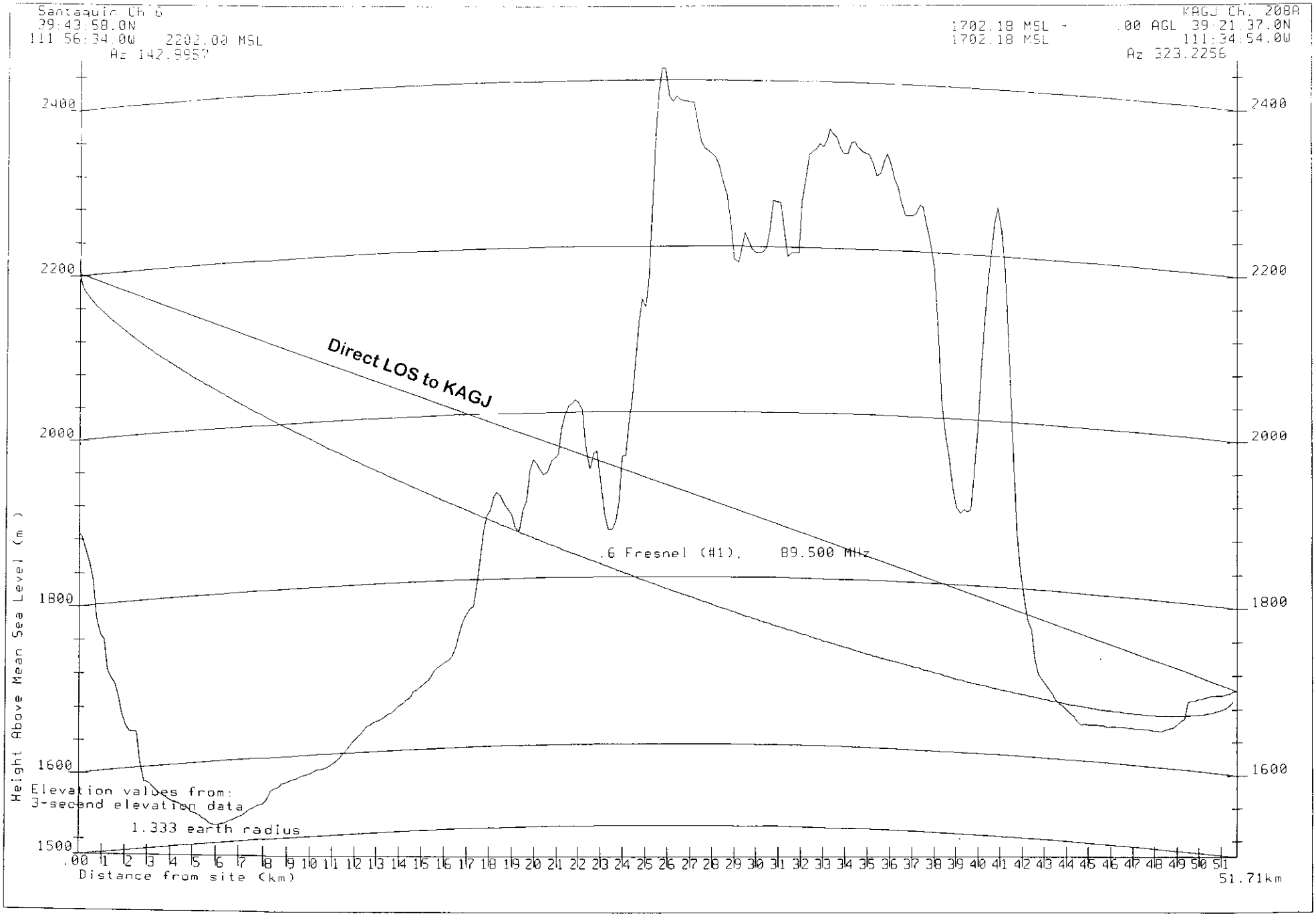
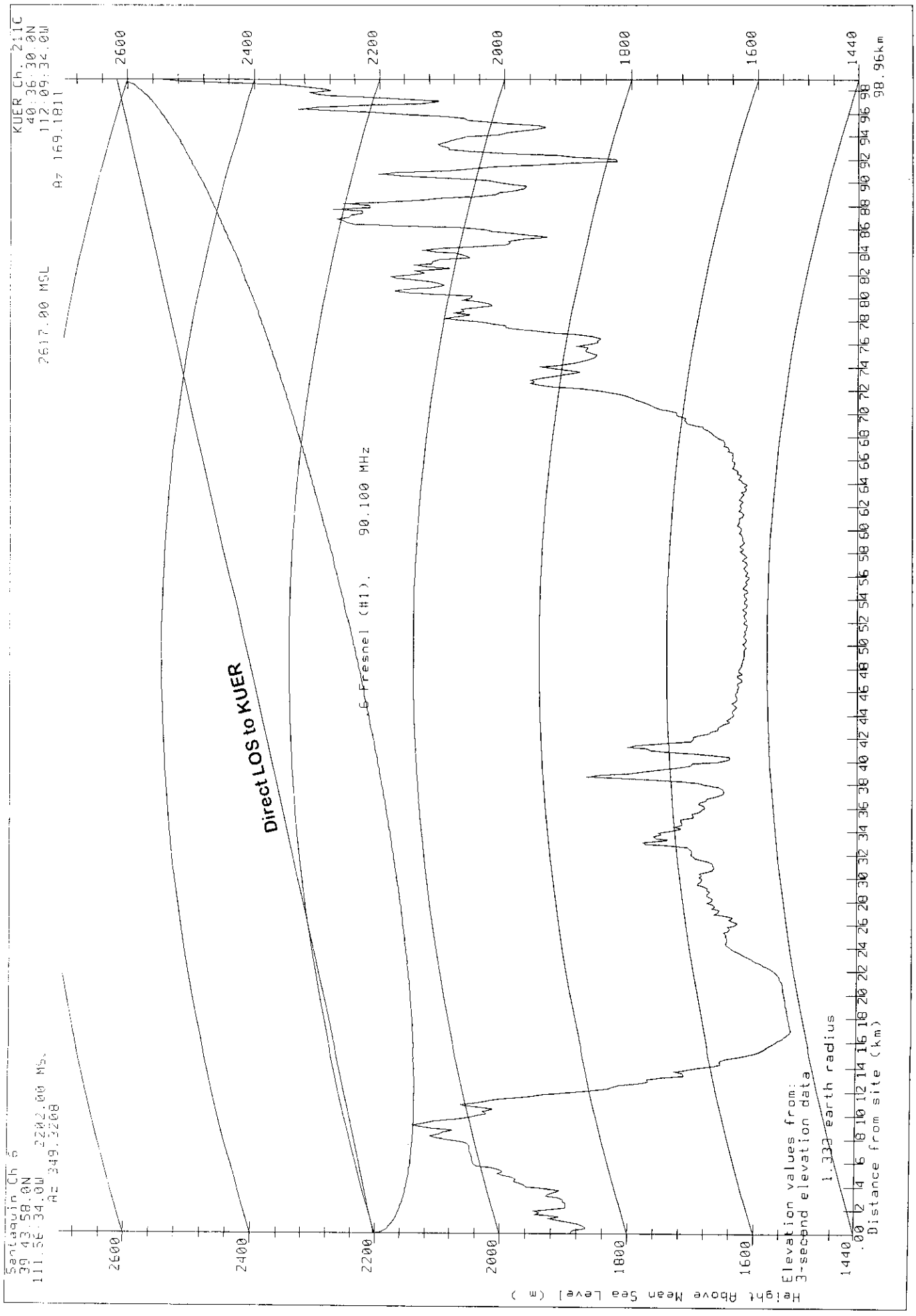

Santaquin Ch 6
39:43:58.0N
111 56:34.0W 2202.00 MSL
Az 142.9957
1702.18 MSL -
1702.18 MSL
.00 AGL 39:21.37.0N
111:34:54.0W
Az 323.2256
KAGJ Ch. 208A
2400
2200
2000
1800
1600
1500
Direct LOS to KAGJ
.6 Fresnel (#1), 89.500 MHz
Height Above Mean Sea Level (m)
Elevation values from:
3-second elevation data
1.333 earth radius
.00 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
Distance from site (km)
51.71km

Figure 5

Figure 6


Santaquin Ch 6
39 43 58.0N
111 56 34.0W
Az 349.2268
2202.00 MSL
KUER Ch. 211C
40 36 30.0N
112 09 34.0W
2617.00 MSL
Az 169.1811
Direct LOS to KUER
.6 Fresnel (#1).
90.100 MHz
Height Above Mean Sea Level (m)
Elevation values from:
3-second elevation data
1.333 earth radius
Distance from site (km)
98.96km

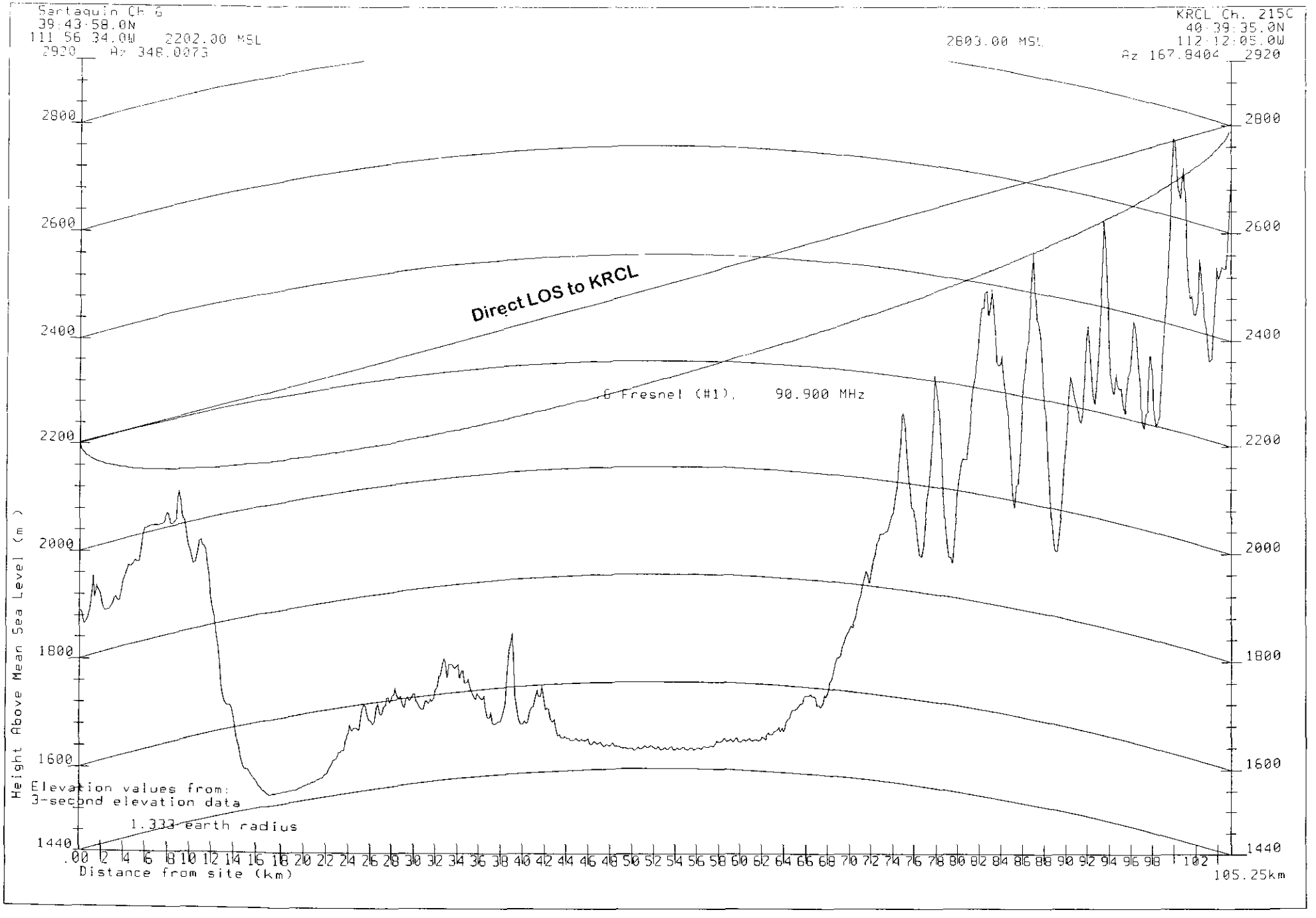

Sertaquin Ch 6
39:43:58.0N
111 56 34.0W 2202.00 MSL
2920 Az 348.0073
KRCL Ch. 215C
40:39:35.0N
112:12:05.0W
2803.00 MSL
Az 167.8404 2920
Direct LOS to KRCL
6 Fresnel (#1), 90.900 MHz
Height Above Mean Sea Level (m)
2800
2600
2400
2200
2000
1800
1600
1440
Elevation values from:
3-second elevation data
1.333 earth radius
Distance from site (km)
105.25km

Figure 7

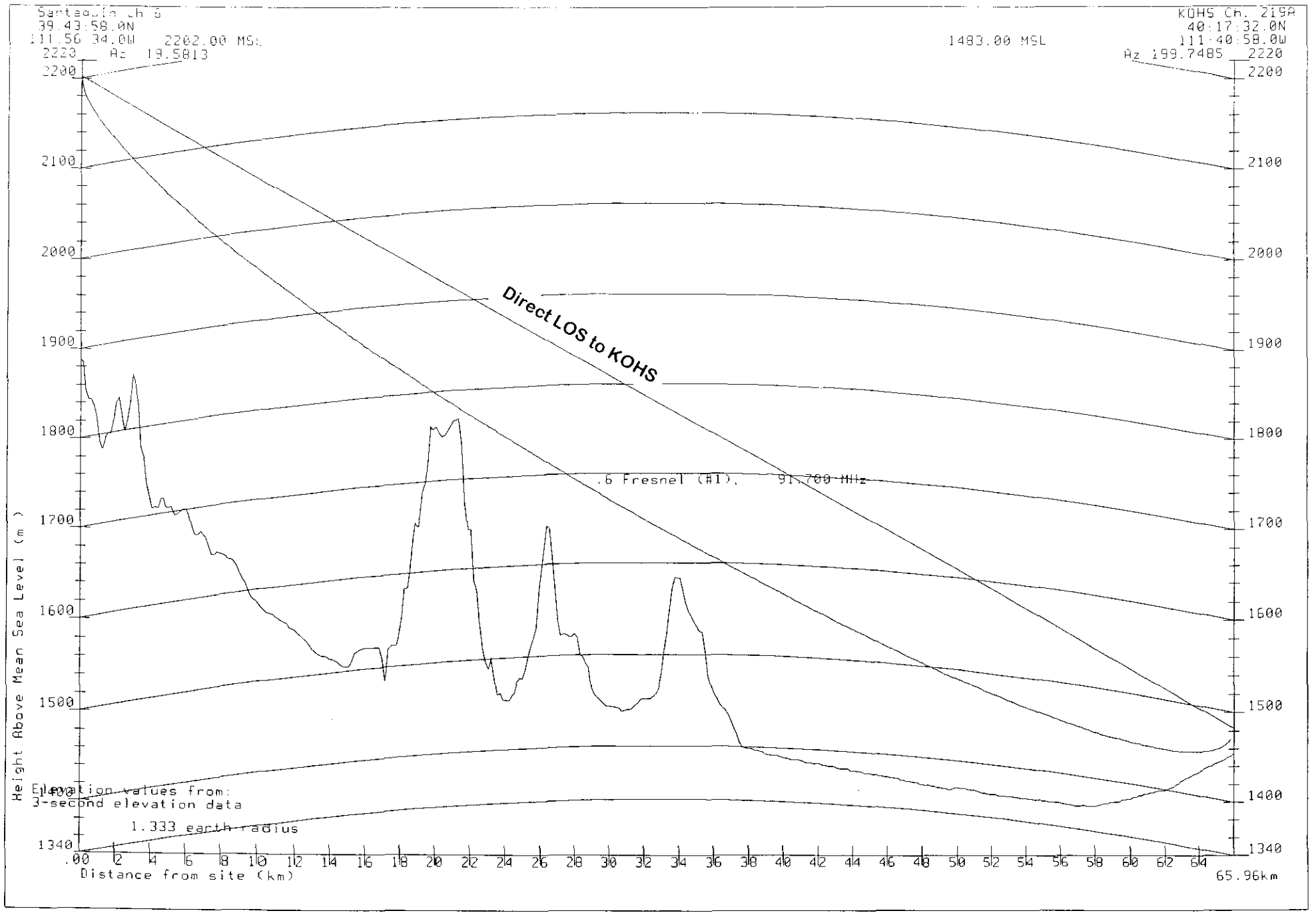

Santaquin Ch 6
39:43:58.0N
111:56:34.0W 2202.00 MSL
2223 Az 19.5813
1483.00 MSL
KOHS Ch. 219A
40:17:32.0N
111:40:58.0W
Az 199.7485 2220
Direct LOS to KOHS
.6 Fresnel (#1), 91.700 MHz
Height Above Mean Sea Level (m)
Elevation values from:
3-second elevation data
1.333 earth radius
Distance from site (km)
65.96km

Figure 8

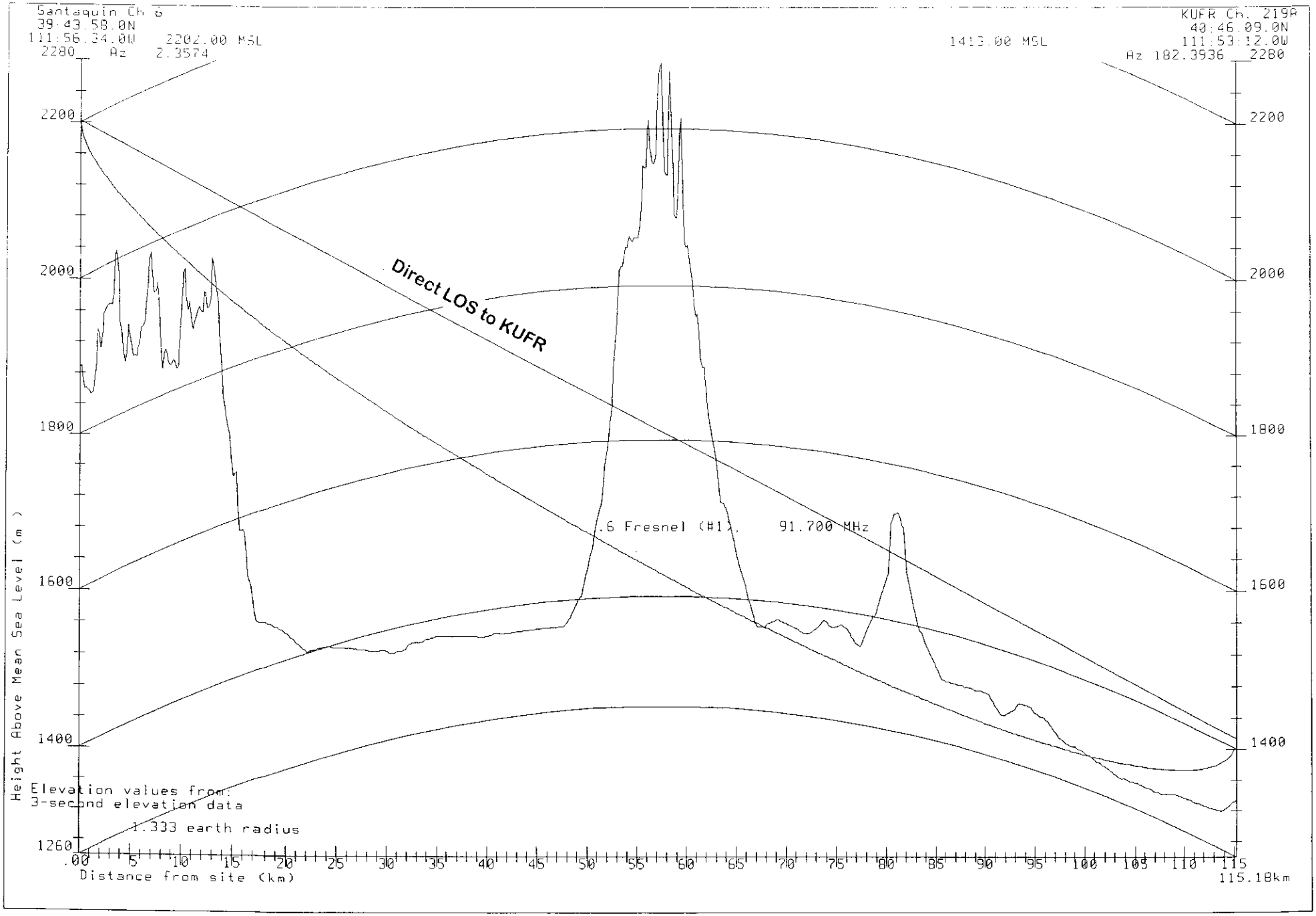

Santaquin Ch 6
39:43:58.0N
111:56:34.0W
2202.00 MSL
Az 2.3574
KUFR Ch. 219A
40:46:09.0N
111:53:12.0W
1413.00 MSL
Az 182.3936
Direct LOS to KUFR
.6 Fresnel (#1), 91.700 MHz
Height Above Mean Sea Level (m)
Elevation values from:
3-second elevation data
1.333 earth radius
Distance from site (km)
115.18km

Figure 9

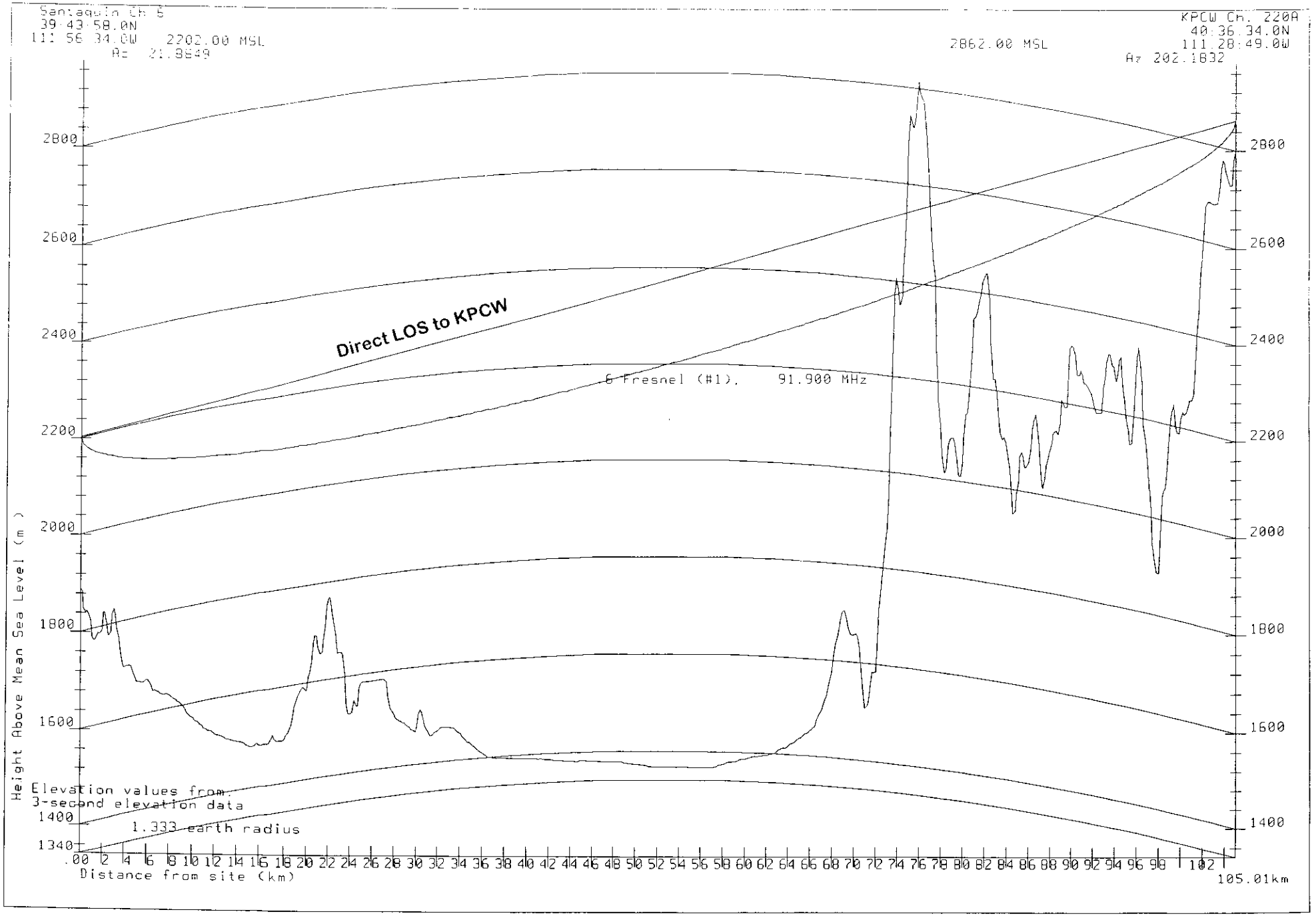

Santaquin Ch 6
39 43 58.0N
111 56 34.0W 2202.00 MSL
Az 21.8649
KPCW Ch. 220A
40 36 34.0N
111 28 49.0W
2862.00 MSL
Az 202.1832
Direct LOS to KPCW
6 Fresnel (#1), 91.900 MHz
Height Above Mean Sea Level (m)
2800
2600
2400
2200
2000
1800
1600
1400
1340
Elevation values from:
3-second elevation data
1.333 earth radius
Distance from site (km)
105.01km

Figure 10

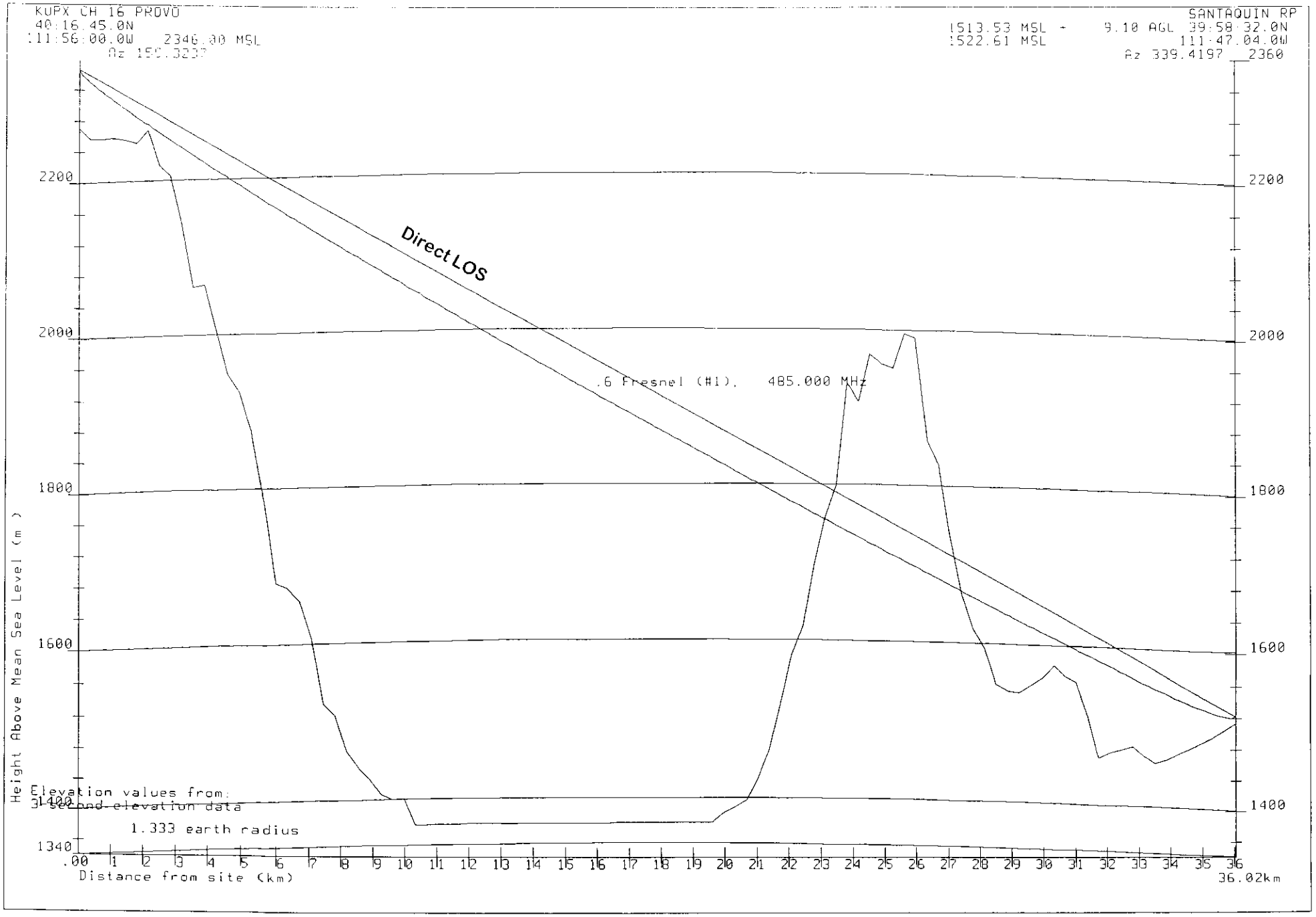

KUPX CH 16 PROVO
40:16:45.0N
111:56:00.0W 2346.00 MSL
Az 150.3237
1513.53 MSL +
1522.61 MSL
9.10 AGL
SANTAQUIN RP
39:58:32.0N
111:47.04.0W
Az 339.4197 2360
Direct LOS
.6 Fresnel (#1), 485.000 MHz
Height Above Mean Sea Level (m)
2200
2000
1800
1600
1400
1340
Elevation values from:
3-second elevation data
1.333 earth radius
.00 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
Distance from site (km)
36.02km

Figure 11

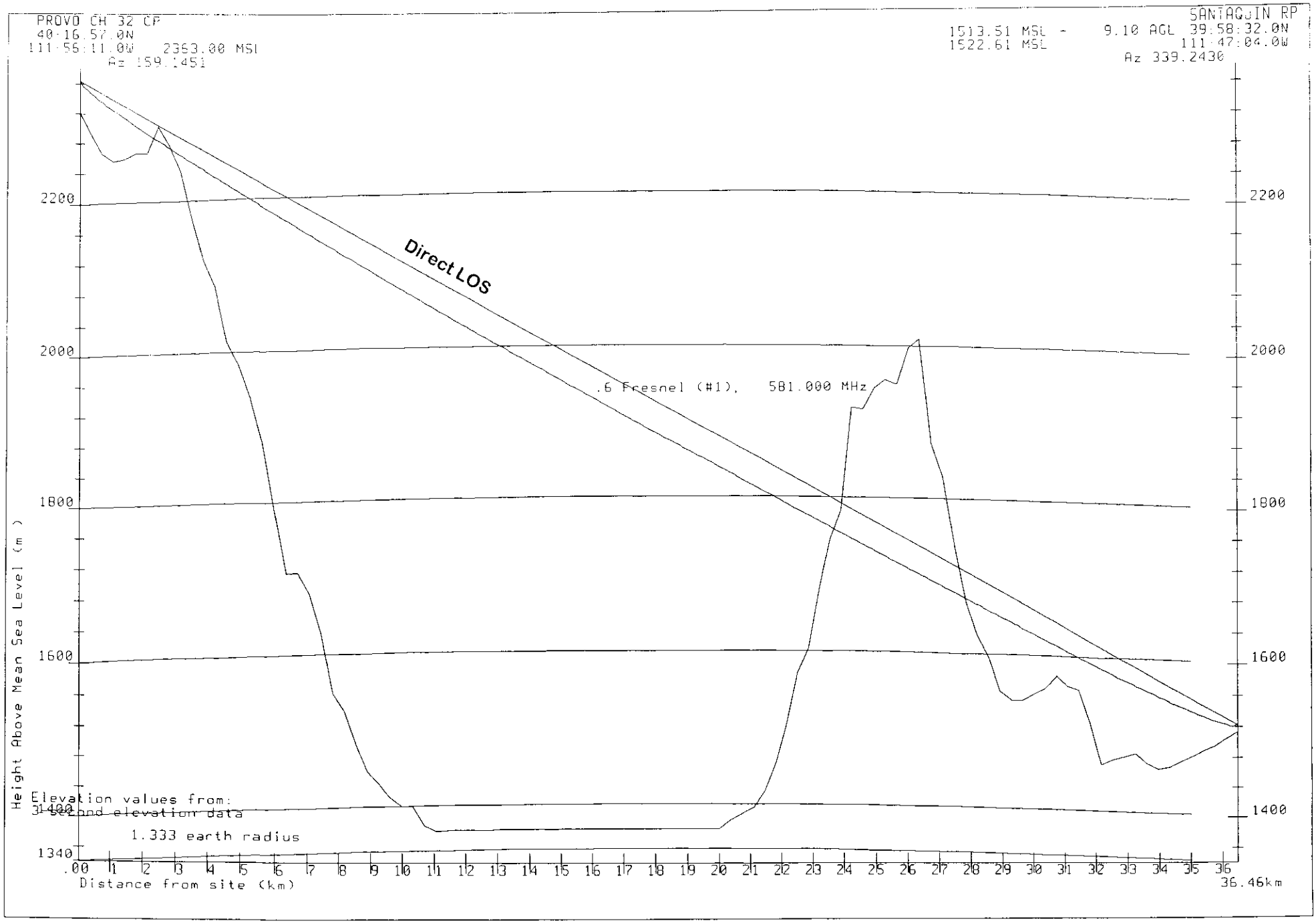

PROVO CH 32 CP
40:16:57.0N
111:56:11.0W 2363.00 MSL
Az 159.1451
1513.51 MSL -
1522.61 MSL
9.10 AGL
SANTAQUIN RP
39:58:32.0N
111:47:04.0W
Az 339.2430
Direct LOS
.6 Fresnel (#1), 581.000 MHz
Height Above Mean Sea Level (m)
2200
2000
1800
1600
1400
1340
Elevation values from:
3 second elevation data
1.333 earth radius
.00 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
Distance from site (km)
36.46km

Figure 12

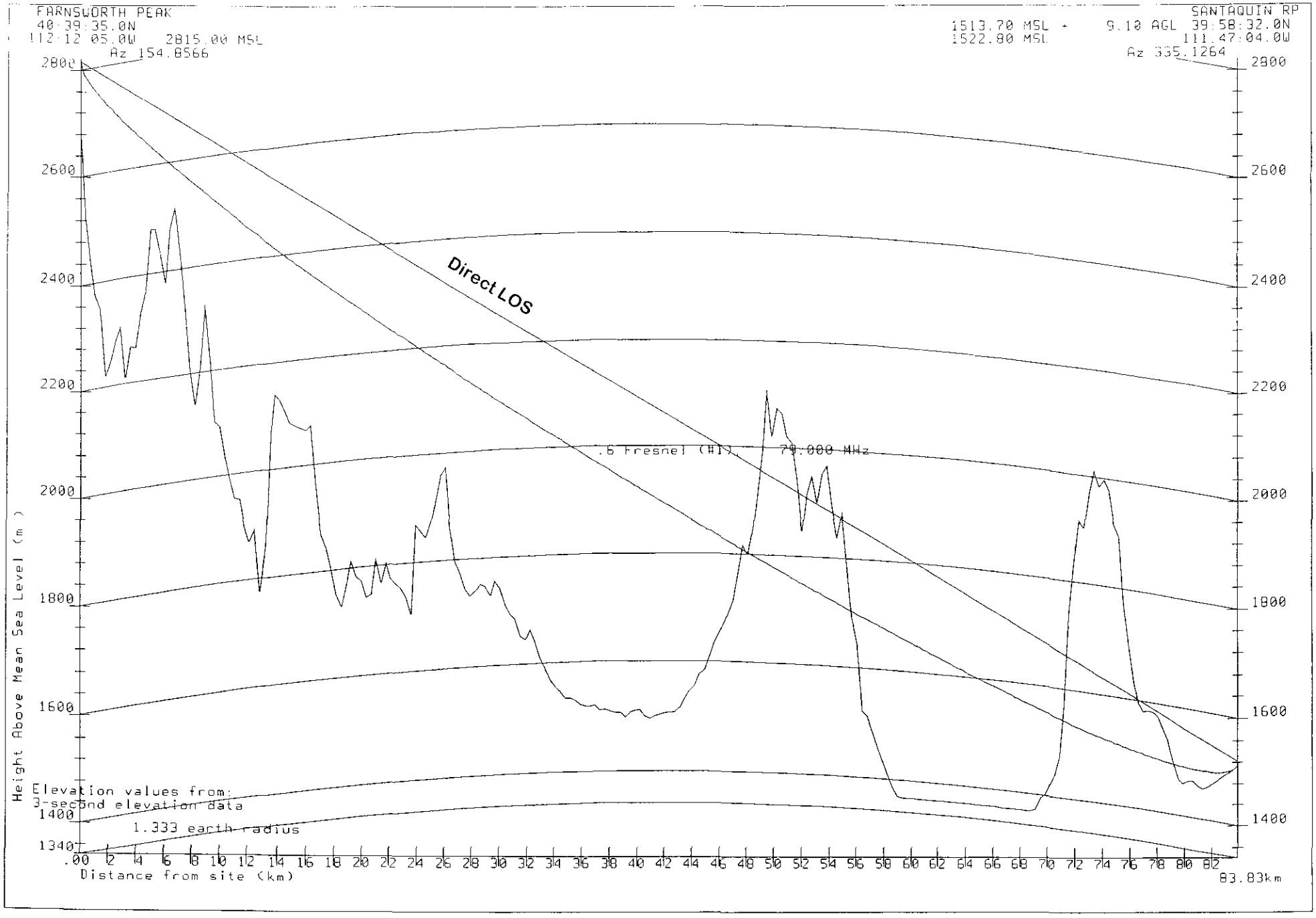

FARNSWORTH PEAK
40:39:35.0N
112:12:05.0W 2815.00 MSL
Az 154.8566
1513.70 MSL +
1522.80 MSL
9.10 AGL
SANTAQUIN RP
39:58:32.0N
111:47:04.0W
Az 335.1264
Direct LOS
.6 Fresnel (Hi) 79.000 MHz
Height Above Mean Sea Level (m)
2800
2600
2400
2200
2000
1800
1600
1400
1340
Elevation values from:
3-second elevation data
1.333 earth radius
.00 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82
Distance from site (km)
83.83km

Figure 13

NEWS
FEDERAL COMMUNICATIONS COMMISSION
1919 M STREET, N.W.
WASHINGTON, D.C. 20554

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Recorded listing of releases and texts
202 / 632-0002

4042

This is an unofficial announcement of Commission action. Release of the full text of a Commission order constitutes official action. See MCI v. FCC. 515 F 2d 385 (D.C. Circ. 1975)

Report No. 16992 ACTION IN DOCKET CASE May 14, 1982

FURTHER RULEMAKING ADOPTED ON PROPOSED STANDARDS FOR PROTECTING TV CHANNEL 6 FROM EDUCATIONAL FM INTERFERENCE (DOCKET NO. 20735)

After evaluating additional public comment and newly obtained technical data, the Commission has issued a second further rulemaking notice proposing specific rules to alleviate the interference problem caused by some noncommercial, educational FM stations to the reception of TV stations operating on Channel 6 in the same vicinity.

Specifically, in this action, the Commission asked for comments on the following proposals:

-- Limiting the amount of interference allowed to that which would make reception of Channel 6 impossible over a 0.3 square mile area around the FM station's transmitter site; and

-- Retaining the current "demand" system for assigning noncommercial, educational FM stations, and not adopting an assignment table for such stations at this time.

The interference problem, which has become worse with the increase in the number and power of educational FM stations, results from the close proximity (in frequency) of educational FM and TV channel 6 spectrum allocations. The spectrum between 88 and 108 MHz is reserved for FM broadcasting, with 88-92 MHz saved for noncommercial educational FM assignments. This spectrum is immediately adjacent to TV channel 6 allotment (82-88 MHz), creating the potential for inter-service interference.

The comparatively narrow bandwidth (.2 MHz) used in FM broadcasting, and the high selectively of FM receivers prevents TV-to-FM interference. However, the reverse is not true since the wide bandwidth used in TV (6 MHz) combined with FCC policy not to assign adjacent (in frequency) TV channels in the same area, have resulted in TV receivers with inadequate adjacent channel selectively.

Noncommercial educational FM interests have argued that the problem is due entirely to poor TV receiver selectivity and that manufacturers should be required to produce a higher quality product. TV Channel 6 interests have said the problem is equally, if not primarily, due to poor FCC allocations policy, and that it would be impossible to produce an adequately selective TV receiver.

-over-

The Commission has previously stated it believes the interference problem lies somewhere between the two opposing positions. Therefore, it said it has developed some TV channel 6 protection standards which should provide an adequate solution to the dilemma.

The effect of the proposed standards, which were developed through the use of a computer model, would be to place substantial restrictions on the power and antenna height that may be used by educational FM stations within the Grade B contour of TV channel 6 stations. These restrictions would become less burdensome as the frequency of the FM station moves from 88.1 to 91.9 MHz -- away from the Channel 6 spectrum.

Regarding a proposal by the Corporation of Public Broadcasting for adoption of an assignment table for noncommercial educational FM stations, the FCC noted that currently such FM assignments are made on a demand basis. The applicant may propose to locate a station virtually anywhere, provided the location satisfies the technical standards designed to prevent objectionable interference between FM stations.

The Commission said the advantages of this system include the flexibility it provides the licensees in meeting local needs and the use of spectrum without the burden of a formal allocation proceeding needed to amend an assignment table. Since the frequencies are assigned on a first-come, first-served basis, the demand system has eliminated requirements to consider and select among competing assignment plans developed by national, state or local groups.

Those filing comments in favor of the plan argued that use of a table would enable the application of a number of assignment principles and policy guidelines to what is presently seen as a haphazard process. Additionally, proponents suggested an assignment table would help to assure an equitable allocation of FM spectrum space among the nation's communities.

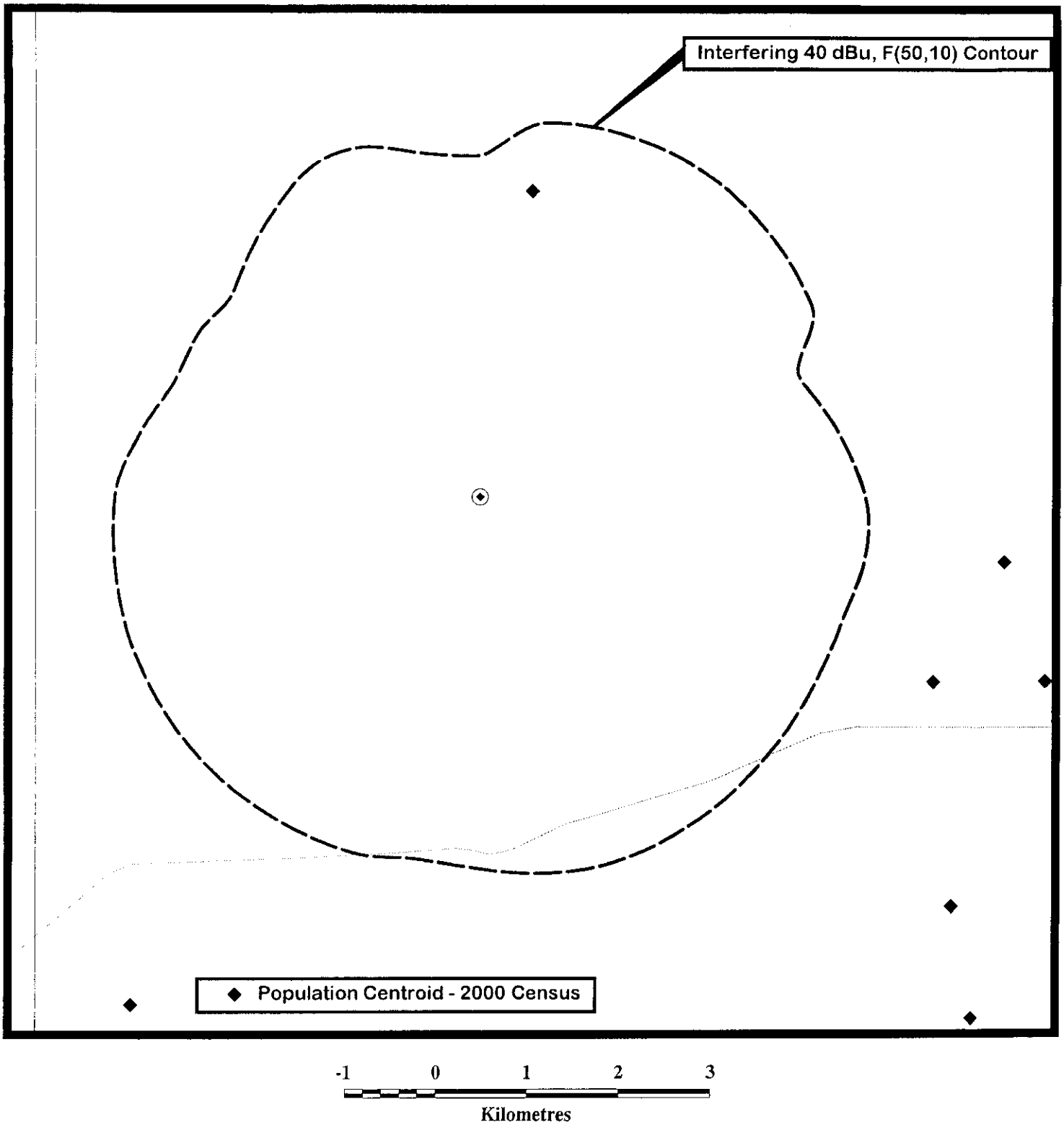
After evaluating comments for and against the assignment plan, the Commission recommended that no such table be adopted because of the difficulty in predicting where service will be desired and the consequent expense and overall difficulty in amending such a table. Even if a limited table were developed, which focused on assignments only for larger facilities, the number of possible assignments would be limited (less than 60) and generally confined to remote areas (less populated areas of the midwest and west). The Commission did say, however, that it was willing to accept additional public comment on the assignment plan issue.

Comment dates on the proposal will be released at a later time.

Action by the Commission May 13, 1982, by Second Further Notice of Proposed Rulemaking (FCC No. 82-225). Commissioners Fowler (Chairman), Quello, Washburn, Fogarty, Jones and Rivera with Commissioner Dawson concurring in part and dissenting in part.

For more information contact Gordon Godfrey at (202) 632-9660.

-FCC-



WORST-CASE DTV INTERFERENCE ANALYSIS TO NCE-FM CHANNEL 201 (88.1 MHZ)

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

CERTIFICATE OF SERVICE

I, Kay D. Dallosta, a secretary in the law firm of Shook, Hardy & Bacon, do hereby certify that I have on this 29th day of January, 2002 caused to be mailed by first class mail, postage prepaid, copies of the foregoing "Reply Comments" to the following:

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(Counsel to Ronald Ulloa)

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Duluth, Georgia 30096-8688
(Counsel to KM Communications, Inc.)

Kay D. Dallosta

Kay D. Dallosta